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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/600,921
Filing Date: June 20, 2003
Appellant(s): WARDLAW, LOUIS J.

William C. Norvell, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1 November 2007 appealing from the Office action mailed 8 March 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

No amendment after final has been filed.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,596,135	WARDLAW, III	6-1986
Re. 35,395	HENRY	12-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wardlaw, III (4,596,135) in view of Henry (Re. 35,395).

2. As to claims 1-3, Wardlaw teaches a method of detecting flaws in a weld, comprising: connecting a source 40 of pressurized gas composition to an injection port 28 in a wellhead 10 in fluid communication with the weld 22,24, said composition comprising a gas mixture including a marker sub-composition comprising a hydrocarbon (Col. 3, lines 60-66); injecting said pressurized gas composition through the injection port while the weld is at an elevated temperature (Col. 4, lines 10-16); monitoring the source of pressurized gas composition for detecting losses in pressure (Col. 4, lines 16-18); and passing a marker gas detector probe 50 over the weld for detecting the marker gas leaking through the weld (Col. 4, lines 21-24). Wardlaw does not teach the marker sub-composition hydrocarbon being non chlorine-containing. Henry teaches a method of detecting leaks by detecting traces of a composition comprising 1,1,1,2-

tetrafluoroethane (Col. 2, lines 58-60) in gaseous form (Col. 3, lines 5-6), which is a non chlorine-containing hydrocarbon. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Henry with the method of Wardlaw because, as Henry teaches, use of chlorine-containing hydrocarbons or Refrigerant 12 causes damage to the ozone layer.

3. As to claim 4, Wardlaw teaches fluid communication being established between the pressurized gas composition and the weld while the temperature of the wellhead is at substantially 500 degrees F (Col. 3, lines 22-23; Col. 4, lines 10-13).

4. As to claims 5-8, Wardlaw teaches a system for detecting flaws in a weld, comprising: a source 40 of pressurized gas composition for connection to a wellhead injection port 28 establishing fluid communication between the source of pressurized gas composition and the weld 22,24; a gas detector probe 50 for detecting a hydrocarbon gas leaking through the weld; and wherein fluid communication is established between the pressurized gas composition and the weld while the weld is maintained at an elevated temperature for detecting flaws in the weld at the elevated temperature (Col. 4, lines 10-15). Wardlaw does not teach the probe detecting a non chlorine-containing hydrocarbon. Henry teaches a system for detecting leaks by using an ultra-violet light probe (Col. 3, lines 32-33) to detect traces of a composition comprising 1,1,1,2-tetrafluoroethane (Col. 2, lines 58-60) in gaseous form (Col. 3, lines 5-6), which is a non chlorine-containing hydrocarbon. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of

Henry with the method of Wardlaw because, as Henry teaches, use of chlorine-containing hydrocarbons or Refrigerant 12 causes damage to the ozone layer.

(10) Response to Argument

5. Appellant has first argued that the Henry reference is non-analogous art because it is concerned with detecting leaks in a refrigerant system, and the primary reference and Appellant's claims are concerned with detecting leaks in an oil field well head. Establishing that a reference is in the same field of endeavor as Appellant's claimed invention is not the only way to establish that a reference is analogous art. It is also enough to establish that the reference and the claimed invention are concerned with solving the same particular problem. In this case, the Henry reference and the claimed invention are both concerned with solving the problem of detecting leaks using a gas with a marker composition that can be detected when a leak exists. Therefore, the Henry reference, although in a different technical field, is still very relevant to the problem being solved and is analogous art.

6. Appellant has also argued that the teachings of the Henry reference require the incorporation of a lubricant and do not teach a marker composition which is only a non-chlorine containing gas. This is simply not true. The Henry reference specifically teaches that one of the advantages of the marker composition over older compositions is that it is able to be detected within the refrigerant gas itself. This strongly suggests that the lubricant is not required for the detection of leaks. Appellant further argues that if the refrigerant lubricant were used in Appellant's well- head, the lubricant would

adversely affect the weld by causing a fire during high temperature welding, or by affecting the solidification of the weld. However, this argument is flawed because Appellant's claimed method does not require the leak detection process to be carried out during welding operations or even any time shortly after welding operations when the weld is still solidifying. Therefore, even if one were to accept the argument that Henry's method requires incorporation of a lubricant, it would not preclude one of ordinary skill in the art from using it in a welded well-head.

7. Appellant has additionally argued with respect to claims 4 and 5, that the Henry reference teaches a method which is only applicable to temperatures of a cold nature, and that Appellant's claim 5 requires the method be carried out at an "elevated" temperature. Appellant further has pointed out that claim 4 requires the method be carried out while the well-head is at substantially 500 degrees F. The Henry reference does contemplate use of the marker composition at elevated temperatures, and even discusses that its high temperature stability is one of its advantages over prior art compositions (Col. 2, lines 55-64). Henry specifically states that his leak detection compounds have excellent oxidation stability up to 470 degrees F (Col. 2, lines 55-57). It can reasonably be interpreted that 470 degrees F is "substantially 500 degrees F" as required by Appellant's claim 4. Even if it were not considered to be "substantially 500 degrees F," the teaching that Henry's compositions have "excellent" oxidation stability up to 470 degrees F is strongly suggestive that the compositions are still very usable at slightly higher temperatures, such as 500 degrees F.

8. Appellant lastly has argued that there is no reason that one of ordinary skill in the art would have combined prior art elements of the Henry and Wardlaw references in the manner claimed. However, both references are concerned with detecting leaks using a gas and a marker composition that can be detected when a leak exists. One of ordinary skill in the art would be motivated to combine the teachings of Henry with those of Wardlaw III because the gas and marker composition used to detect leaks by Henry offer an advantage in that they are more environmentally friendly and much less harmful to the ozone layer. This is not only apparent to one of ordinary skill in the art, but it is specifically set forth by Henry (Col. 1, lines 20-40) as a reason for using Henry's method and composition. This motivation is believed to be more than sufficient to justify the combination of Henry's detection compound(s) with the leak detection method and system of Wardlaw III.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Paul M. West

1 February 2008

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